UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,759	11/10/2003	Jan Hirsimaki	915-007.056	4284

4955 7590 01/16/2008

WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP
BRADFORD GREEN, BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER	
CHEEMA, UMAR	

ART UNIT	PAPER NUMBER
2144	

MAIL DATE	DELIVERY MODE
01/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/705,759	HIRSIMAKI, JAN	
	Examiner	Art Unit	
	Umar Cheema	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6-22 and 24-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6-22 and 24-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is response to the Amendment field on 15 October 2007. Claims 1-3, 6-22, and 25-33 are pending with claims 1, 19-20, and 33 being the independent claims. Claims 4-5 and 23-24 have been cancelled.

Response to Arguments

2. Applicant's arguments and amendments filed on 29 October 2007 with respect to claims 1-3, 6-22, and 25-33 have been carefully considered but they are not deemed fully persuasive. Applicant's arguments are deemed moot in view of the following new ground(s) of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., *by incorporating the limitations of claims 4 and 5 in to independent claim 1, 19-20 and 33 as well as the cancellation of claims 4-5 and 23-24, has changes the scope of dependent claims 2-3, 6-22 and 25-33, and will require further search and consideration*) to the claims which significantly affected the scope thereof.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 1-3, 6-22, 25-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al (Takagi) (US 6,272,148) in view of Apisdorf et al (Apisdorf) (US 6,480,977) and further in view of Ahmed et al (Ahmed) (US 6,947,398).

Regarding claim 1, Takagi substantially disclose the invention as claimed a method for improving transmission performance of a transport layer protocol connection that uses a data transmission service of a bearer (see abstract, col. 3, lines 65-67, col. 4, lines 1-10), comprising: monitoring transport layer data traffic in relation to transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection, and dynamically adjusting said transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection

wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said

monitored respective uplink and downlink data traffic, wherein said Uplink and downlink data traffic is at least partially asymmetric.

Takagi does not explicitly disclose wherein said monitoring transport layer data traffic in relation to transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection, and dynamically adjusting said transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection

wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic, wherein said Uplink and downlink data traffic is at least partially asymmetric.

In the same field of invention, Apisdorf and Ahmed disclose wherein said monitoring transport layer data traffic in relation to transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection (see Apisdorf: abstract, col. 1, lines 5-10, 63-67), and dynamically adjusting said transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection (see Apisdorf: col. 1, lines 49-60)

wherein said bearer provides uplink and downlink transmission capacity (see Ahmed: col. 8, lines 10-26, fig. 1), wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately

monitored (see Ahmed: fig. 2, lines 45-50), and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic (see Ahmed: col. 8, lines 10-26, col. 11, lines 35-43), wherein said Uplink and downlink data traffic is at least partially asymmetric (see Ahmed: col. 3, lines 20-28).

Therefore it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Takagi, Apisdorf and Ahmed for method of improving transmission performance of a transport layer protocol (TLP) connection that uses a data transmission service of a bearer. Motivation for doing so would have been that it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (see Apisdorf: col. 3, lines 20-28).

Regarding claim 2, Takagi discloses the method according to claim 1, wherein said transport layer protocol is a transport control protocol or a user datagram protocol (see col. 1, lines 15-20).

Regarding claim 3, Takagi discloses the method according to claim 1, wherein transmission capacity adjustment information is signaled from at least one transport control protocol instance to at least one bearer instance (see col. 6, lines 47-65).

Regarding claim 4 (Cancelled).

Regarding claim 5 (Cancelled).

Regarding claim 6, Takagi discloses the method according to claim 1, wherein said data traffic of said transport layer protocol connection is monitored at least partially by monitoring a state of at least one transport layer protocol segment buffer (see col. 2, lines 65-67, col. 3, lines 1-8).

Regarding claim 7, Takagi discloses the method according to claim 1, wherein said data traffic of said transport layer protocol connection is monitored at least partially by monitoring data input to at least one transport layer protocol socket (see col. 18, lines 9-21).

Regarding claim 8, Takagi discloses the method according to claim 1, wherein said bearer is a packet-switched or circuit-switched bearer (see col. 28, lines 29-42).

Regarding claim 9, Takagi discloses the method according to claim 1, wherein said bearer is at least partially based on wireless transmission (col. 22, lines 59-65).

Regarding claim 10, the combination of Takagi and Apisdorf disclose the method according to claim 1, wherein said bearer is a high-speed circuit switched data bearer of

a global system for mobile communication or of a derivative thereof (see Takagi: col. 11, lines 12-23, Apisdorf: col. 2, lines 10-21).

Regarding claim 11, the combination of Takagi and Apisdorf disclsoe the method according to claim 10, wherein said transmission capacity of said bearer (see Takagi: col. 4, lines 1-10) is adjusted according to said monitored data traffic of said transport layer protocol connection by changing a maximum number of traffic channels, at least one air interface user rate parameter, or both (see Apisdorf: col. 1, lines 49-60).

Regarding claim 12, Takagi discloses the method according to claim 11, wherein said change is performed by using a call control user initiated service level up- and downgrading procedure (see col. 14, lines 4-15).

Regarding claim 13, Takagi discloses the method according to claim 1, wherein said bearer is a general packet radio service bearer or an enhanced bearer of a global system for mobile communications or of a derivative thereof (see abstract, col. 1, lines 30-38).

Regarding claim 14, the combination of Takagi and Apisdorf disclose the method according to claim 13, wherein said transmission capacity of said bearer (see Takagi: col. 4, lines 1-10) is adjusted according to said monitored data traffic of said transport

layer protocol connection by influencing a temporary block flow setup (see Apisdorf: col. 1, lines 49-60).

Regarding claim 15, Takagi discloses the method according to claim 1, wherein said bearer is a bearer that uses code division multiple access as medium access technique, in particular a bearer of an IS-95 system or of a derivative thereof (see col. 31, lines 7-18).

Regarding claim 16, Takagi discloses the method according to claim 1, wherein said bearer is a universal mobile telecommunications system bearer or a bearer of a derivative of said system (see col. 11, lines 12-23).

Regarding claim 17, Takagi discloses a computer program stored on a computer readable medium with instructions operable to cause a processor to perform the method steps of claim 1 (see col. 7, lines 42-59).

Regarding claim 18, Takagi discloses a computer readable medium having a computer program stored thereon with instructions operable to cause a processor to perform the method steps of claim 1 (see col. 7, lines 42-59).

Regarding claim 19, Takagi substantially discloses the invention as claimed a device for improving transmission performance of a transport layer protocol connection that

uses a data transmission service of a bearer (see abstract, col. 3, lines 65-67, col. 4, lines 1-10), comprising: a transport layer monitor for monitoring data traffic in relation to transmission capacity of said transport layer protocol connection, and a resource allocation device for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection

wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic, wherein said Uplink and downlink data traffic is at least partially asymmetric.

Takagi does not explicitly discloses wherein said a transport layer monitor for monitoring data traffic in relation to transmission capacity of said transport layer protocol connection, and a resource allocation device for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection

wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic, wherein said Uplink and downlink data traffic is at least partially asymmetric.

In the same field of invention Apisdorf and Ahmed disclose wherein said a transport layer monitor for monitoring data traffic in relation to transmission capacity of said transport layer protocol connection (see Apisdorf: abstract, col. 1, lines 5-10, 63-67), and a resource allocation device for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection (see Apisdorf: col. 1, lines 49-60)

wherein said bearer provides uplink and downlink transmission capacity (see Ahmed: col. 8, lines 10-26, fig. 1), wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored (see Ahmed: fig. 2, lines 45-50), and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic (see Ahmed: col. 8, lines 10-26, col. 11, lines 35-43), wherein said Uplink and downlink data traffic is at least partially asymmetric (see Ahmed: col. 3, lines 20-28).

Therefore it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Takagi, Apisdorf and Ahmed for method of improving transmission performance of a transport layer protocol (TLP) connection that uses a data transmission service of a bearer. Motivation for doing so would have been that it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (see Apisdorf: col. 3, lines 20-28).

Regarding claim 20, Takagi substantially discloses the invention as claimed the invention as claimed a mobile terminal using a transport layer protocol connection that uses a data transmission service of a bearer (see col. 11, lines 12-23, abstract, col. 3, lines 65-67, col. 4, lines 1-10), comprising: a transport layer monitor for monitoring data traffic in relation to transmission capacity of said transport layer protocol connection, and a resource allocation device for dynamically adjusting transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection

wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic, wherein said Uplink and downlink data traffic is at least partially asymmetric.

Takagi does not explicitly disclose wherein said a transport layer monitor for monitoring data traffic in relation to transmission capacity of said transport layer protocol connection, and a resource allocation device for dynamically adjusting transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection

wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said transport control protocol connection comprises uplink

and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic, wherein said Uplink and downlink data traffic is at least partially asymmetric.

In the same field of invention Apisdorf and Ahmed disclose wherein said a transport layer monitor for monitoring data traffic in relation to transmission capacity of said transport layer protocol connection (see Apisdorf: abstract, col. 1, lines 5-10, 63-67), and a resource allocation device for dynamically adjusting the transmission capacity of said bearer according to said monitored data traffic of said transport layer protocol connection (see Apisdorf: col. 1, lines 49-60)

wherein said bearer provides uplink and downlink transmission capacity (see Ahmed: col. 8, lines 10-26, fig. 1), wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored (see Ahmed: fig. 2, lines 45-50), and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic (see Ahmed: col. 8, lines 10-26, col. 11, lines 35-43), wherein said Uplink and downlink data traffic is at least partially asymmetric (see Ahmed: col. 3, lines 20-28).

Therefore it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Takagi, Apisdorf and Ahmed for method of improving transmission performance of a transport layer protocol (TLP) connection that uses a data transmission service of a bearer.

Motivation for doing so would have been that it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (see Apisdorf: col. 3, lines 20-28).

Regarding claim 21, Takagi discloses the mobile device according to claim 20, wherein said transport layer protocol is a transport control protocol or a user datagram protocol (see col. 1, lines 15-20).

Regarding claim 22, Takagi discloses the mobile device according to claim 20, configured to signal transmission capacity adjustment information from at least one transport layer protocol instance to at least one bearer instance (see col. 6, lines 47-65).

Regarding claim 23 (Cancelled).

Regarding claim 24 (Cancelled).

Regarding claim 25, Takagi discloses the mobile terminal according to claim 20, wherein said data traffic of said transport layer protocol connection is monitored at least partially by monitoring a state of at least one transport layer protocol segment buffer (see col. 2, lines 65-67, col. 3, lines 1-8).

Regarding claim 26, Takagi discloses the mobile terminal according to claim 20, wherein said data traffic of said transport layer protocol connection is monitored at least partially by monitoring data input to at least one transport layer protocol socket (see col. 18, lines 9-21).

Regarding claim 27, Takagi discloses the mobile terminal according to claim 20, wherein said bearer is a packet-switched or circuit-switched bearer (see col. 28, lines 29-42).

Regarding claim 28, Takagi discloses the mobile terminal according to claim 20, wherein said bearer is at least partially based on wireless transmission (see col. 22, lines 59-65).

Regarding claim 29, the combination of Takagi and Apisdorf discloses the mobile terminal according to claim 20, wherein said bearer is a high-speed circuit switched data bearer of a global system for mobile communication or of a derivative thereof (see Takagi: col. 11, lines 12-23, Apisdorf: col. 2, lines 10-21).

Regarding claim 30, Takagi discloses the mobile terminal according to claim 20, wherein said bearer is a general packet radio service bearer or an enhanced bearer of a

global system for mobile communications or of a derivative thereof (see abstract, col. 1, lines 30-38).

Regarding claim 31, Takagi discloses the mobile terminal according to claim 20, wherein said bearer is a bearer that uses code division multiple access as a medium access technique, in particular a bearer of an IS-95 system or of a derivative thereof (see col. 31, lines 7-18).

Regarding claim 32, Takagi discloses the mobile terminal according to claim 20, wherein said bearer is a universal mobile telecommunications system bearer or a bearer of a derivative of said system (see col. 11, lines 12-23).

Regarding claim 33, Takagi substantially discloses the invention as claimed a system, comprising: at least one terminal (see abstract), and at least one network interface (see abstract, col. 1, lines 9-13), wherein said at least one terminal and said at least one network interface use a transport layer protocol connection that uses a data transmission service of a bearer (see abstract, col. 3, lines 65-67, col. 4, lines 1-10), wherein data traffic of said transport layer protocol connection is monitored in relation to transmission capacity and wherein said transmission capacity of said bearer is dynamically adjusted according to said monitored data traffic of said transport layer protocol connection

wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic.

Takagi does not explicitly disclose wherein said data traffic of said transport layer protocol connection is monitored in relation to transmission capacity and wherein said transmission capacity of said bearer is dynamically adjusted according to said monitored data traffic of said transport layer protocol connection

wherein said bearer provides uplink and downlink transmission capacity, wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately monitored, and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic.

In the same field of invention Apisdorf and Ahmed disclose wherein said data traffic of said transport layer protocol connection is monitored in relation to transmission capacity (see Apisdorf: abstract, col. 1, lines 5-10, 63-67) and wherein said transmission capacity of said bearer is dynamically adjusted according to said monitored data traffic of said transport layer protocol connection (see col. 1, lines 49-60)

wherein said bearer provides uplink and downlink transmission capacity (see Ahmed: col. 8, lines 10-26, fig. 1), wherein said data traffic of said transport control protocol connection comprises uplink and downlink data traffic that is separately

monitored (see Ahmed: fig. 2, lines 45-50), and wherein said uplink and downlink transmission capacity is at least partially separately adjusted according to said monitored respective uplink and downlink data traffic (see Ahmed: col. 8, lines 10-26, col. 11, lines 35-43).

Therefore it would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Takagi, Apisdorf and Ahmed for method of improving transmission performance of a transport layer protocol (TLP) connection that uses a data transmission service of a bearer. Motivation for doing so would have been that it helps to determine how much traffic is transmitted through the link from which the information applied to monitor processor system is intercepted. This information can be used to improve network management and network operations (see Apisdorf: col. 3, lines 20-28).

Examiner's Note Regarding Claim 24: Examiner called Applicant's Attorney Francis J. Maguire (Registration No. 31,391) on 01/09/2007 and was informed by Mr. Maguire that they forgot to cancel claim 24 and examiner can go ahead and cancel the claim. However Examiner suggests the Applicant that Claim 24 should shown as cancelled claimed in response to this office action.

4. **Examiner's Note**: Examiner has cited particular paragraphs, figures, columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to

the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Umar Cheema whose telephone number is 571-270-3037. The examiner can normally be reached on M-F 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn, Jr. can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

uc